



Etiology

Anaphylaxis is a severe systemic allergic reaction. It is a life-threatening Immunoglobulin E (IgE) – mediated medical emergency requiring immediate treatment.

Anaphylaxis criteria include the following:

1. Exposure to a known or suspected allergen and with a sudden onset of illness **AND** at least **1** of the following:
 - a. Sudden respiratory signs and symptoms
 - b. Sudden systolic BP less than $70 + (2 \times \text{age})$ mmHg systolic or symptoms of end-organ dysfunction

Or

2. Exposure to a known or suspected allergen and with a sudden onset of illness and **BOTH** of the following:
 - a. Sudden skin or mucosal signs and symptoms
 - b. Sudden gastrointestinal symptoms

Interventions

1. Remove the allergen if possible
2. Stingers should be removed by scraping the skin with the dull side of trauma shears to avoid squeezing more venom into the site

Fluid Resuscitation

1. If the patient is hypotensive, administer normal saline 20 mL/kg IV/IO bolus prn, titrated to systolic BP $70 + (2 \times \text{age})$ mmHg or greater
2. PCPs - **mandatory OLMC** for further treatment direction if hypotension persists refractory to the administration of 40 mL/kg normal saline

Patient Safety Considerations

- All of the medications in the Pediatric Anaphylaxis Protocol may be given concurrently based upon the patient's presentation



Medical First Response

Special Circumstances

Not applicable

Pediatric Anaphylaxis 2.1



Pharmacology

epiNEPHine

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| Generic Name: epiNEPHrine |
| Trade Name: Adrenalin |
| Classification: adrenergic agonist (sympathomimetic) |
| Supplied: Epi Pen™ 0.3mg / 0.3 mL / Epi Pen™ Jr 0.15mg / 0.3 mL |
| <p>Actions (Pharmacodynamics):</p> <ul style="list-style-type: none"> • Directly stimulates the alpha and beta-adrenergic receptors in the sympathetic nervous system • Bronchodilation: relaxes bronchial smooth muscle (beta₂ receptors) and inhibits histamine release • CV and vasopressor: produces positive chronotropic and inotropic effects (beta₁ receptors); increasing cardiac output, myocardial oxygen consumption and force of contraction. Vasodilation (beta₂ receptors) and vasoconstriction (alpha receptors) |
| Indications: Anaphylaxis |
| <p>Dosage:</p> <p>Adult: 0.3mg (1mg / 1mL) IM</p> <p>Repeat q 5-10 minutes prn</p> <p>Pediatric: 0.01 mg/kg IM/SQ (do not exceed 0.3 mg)</p> <p>*Note: Epinephrine dose is based on body weight. The EpiPen™ auto-injector (0.3mg) is for patients weighing more than 66 lbs/30 kg while the EpiPen™ Jr (0.15 mg) is for patients weighing between 33 lbs/15 kg and 66 lbs/30 kg.</p> |
| Route: intramuscular (IM lateral thigh preferred) |
| <p>Contraindications:</p> <ul style="list-style-type: none"> • None in the emergent setting |
| <p>Precautions:</p> <ul style="list-style-type: none"> • Do not mix with alkaline solutions <p>Ischemic heart disease</p> |
| Note: Massaging the site after an IM injection may hasten absorption |